CECOS INTERNATIONAL, INC.
CHEMICAL AND ENVIRONMENTAL CONSERVATION SYSTEMS

IMPROVEMENT PLAN FOR

PONCE MUNICIPAL DUMP
PRT000010231

REF: EPA Docket No. II RCRA-82-0301

January 8, 1983

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- EXECUTIVE OVERVIEW -

Since the founding of CECOS International, Inc. in 1976, we have worked closely with EPA Region II in making our New York Division the best Hazardous Waste Management Facility in the United States. Now that CECOS has signed an agreement with the Municipality of Ponce for the operation of their interim status facility, it is our commitment to work with EPA Region II in bringing to this facility all of our technological and environmental expertise so that the continued operation of the Ponce Municipal Dump will exceed all the requirements as defined under RCRA.

The improvement plan contained herein is the first of many efforts that CECOS will undertake to satisfy any and all regulatory concerns expressed by Region II. However, we wish to emphatically stress that, as a result of the ingrown operating philosophy of CECOS International, Inc., we do not plan on operating this facility in a reactionary mode and will therefore assure that the continued operation of this exisitng hazardous waste management facility will be performed to the letter of the law, both at the federal level and at the Commonwealth level, and as such a very active communication effort with EPA Region II will be put into effect immediately, beginning with this Improvement Plan, so that all activities at this facility can be well monitored by the EPA.

SITE SECURITY

In accordance with 40 CFR 265.14 (a) and in response to the Complaint issued by EPA Region II for violations of Section 3004, we are hereby submitting the following plan to prevent the unknowning entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the active portion of this facility:

A) A twenty four (24) hour surveillance system by means of guards of facility personnel will be established which will continuously monitor and control entry onto the active portion of the facility.

B) A fence of not less than six (6) feet in height, connecting the natural barriers that are now in existence at this site, will be installed so that all active portions of the site will be completely surrounded.

C) Roadway access and entrances to the facility will be attended by facility personnel during normal operating hours, and will be secured by means of locked gates during non-operating hours.

D) Signs with the legend "Danger - Unauthorized Personnel Keep Out", in both English and Spanish, will be posted at each entrance to the active portion of the facility, and in sufficient numbers at other locations so that they can be seen from any approach to this active portion.

It is our intention, upon receipt of approval from EPA for the Improvement Plan for the Ponce Municipal Dump, that this Site Security plan will be implemented within fifteen (15) days of receipt of this approval.

PONCE MUNICIPAL DUMP

- CLOSURE/POST-CLOSURE PLANS -

The present operations at the Ponce Municipal Dump consist of two (2) surface impoundments, referenced in the Complaint as lagoons, for storage and solidification of liquid and semi-solid wastes, occupying approximately two (2) acres of the entire facility. The other existing operation at this site is a landfilling operation that employs, in addition to storage capabilities, co-disposal of hazardous and non-hazardous wastes and occupies a substantial part of the remaining active portion of the 120-acre site.

In response to the Complaint for the submission of closure and post-closure plans in accordance with the requirements of 40 CFR 265.112 and 265.118, and to provide for appropriate clean up of the facility as directed in the complaint, we are submitting the following plan for review and approval by EPA Region II:

1. To respond to the results of the inspection of this site where waste from the lagoons at the Ponce Municipal Dump were being released into the soil through ruptures in the lining of the lagoon, it is our plan to:

Details !!! How?

a) Remove the wastes and contaminated soil from the lagoons and area immediately beneath the lagoons.

How much + How will amount be determined?

b) Dispose of these wastes into a secure land management facility that will be designed and constructed in

Waste Analysis? —

accordance with 40 CFR 265, and as allowed under 40 CFR 122.23 (c)(3)(i) and (ii), and 123.23(5), and will consist of as a minimum an impermeable liner system composed of a combination of natural and synthetic materials, an internal leachate collection system, and an external groundwater monitoring system.

c) Upgrade these lagoons according to 40 CFR 265 for continued operation.

d) This plan will be put into effect within forty five (45) days of receipt of approval for the Improvement Plan for the Ponce Municipal Dump, and detailed engineering plans of the secure land management facility will be submitted at that time for review by EPA Region II.

2. According to 40 CFR 265.228, upon the final cessation of operations at these surface impoundments, closure will consist of removal and solidification of any standing liquids, waste and waste residues, the liner system, and underlying and surrounding contaminated soil, and proper and secure disposal into the above mentioned secure land management facility, as referenced in item 1-b and 1-d of this plan. This closure will be put into effect within ninety (90) days after receiving the final volume of waste, which is not anticipated for a minimum of 20 years, and will take approximately ninety (90) days to complete.

3. As referenced above, one of the other existing operations at the Ponce Municipal Dump is a landfilling operation that employs co-disposal of hazardous and non-hazardous wastes and which contains pockets of various wastes and materials that, as directed by the Complaint, will require clean up and proper handling. In accordance with the requirements of 40 CFR 265, the following closure plan will be implemented in a phased approach, that will allow for the continued proper and safe operation of this landfill, while also allowing for the phasing out and complete elimination of current co-disposal activities, while providing for the continued safe, secure disposal of those wastes requiring clean up as ordered.

a) A surface and sub-surface sampling program will be undertaken to identify any problem areas that may require clean up and proper management as defined in any applicable requirments under Parts 262, 263, and 265.

b) Dispose of those wastes identified during this sampling program into the secure land management facility, as outlined in paragraph 1-b, and 1-d of this plan.

c) Those areas of the landfill that have reached operating life capacity will be closed in accordance with the following plan:

1) Corners on all benched sides will be filled in to give smooth slopes of not greater than 1 in 3 gradient.

2) The entire surface will be sealed with a compacted layer of 24", the uppermost six inches of which will be soil of composition suitable for sustaining a vegetative cover.

3) The top six inches of top soil will be seeded with a mixture of perennial rye and blue grass (50 lbs/acre) with 5-10-5 fertilizer (200 lbs/acre).

4) Draninage swales will be strategially located along the perimeter of the closed portion of the landfill to provide for proper run-off control of precipitation.

5) The gas venting system consisting of venting structures made of four (4) inch perforated PVC pipe will be terminated three (3) feet above the finished surface.

d) Once filled, covered, landscaped, and seeded, the site will be left as a green area and monitored according to the monitoring protocol defined later in this plan, and

systematically maintained in accordance with the Post-Closure program outlined below.

e) This plan will be put into effect within forty five (45) days of receipt of approval for the Improvement Plan for the Ponce Municipal Dump and detailed engineering plans of the closure will be submitted at that time for review by EPA Region II.

4. Post-Closure of the landfill operations will consist of the following procedure:

need before closure!

After closure, a complete facilities inspection report will be prepared for the closed portion of the landfill area and will be made available to the Environmental Protection Agency Region II.

The Post-Closure Inspection Report will address the following:

? Must be submitted NOW!

a) Subsidence

b) Pooling of surface water above final cover

c) Erosion

d) Vegetation survival

e) Dehydration cracking

f) Spreading or slumping of the structure

g) Soil cover integrity

h) Slope integrity

i) Surface drainage

j) Gas venting systems operations

Discrepances from normal conditions will be corrected on a case-by-case basis within a month after inspection.

PONCE MUNICIPAL DUMP

GROUNDWATER MONITORING PLAN

INTRODUCTION

The groundwater monitoring program proposed for the Ponce Municipal Dump will be designed specifically to measure the changes that will result as a direct effect of the continuing operation of the various facilities on the site. This essentially entails a monitoring program that measures changes in certain variables within the environment. It also is a program that demands that the parameters that are measured be capable of realistically presenting a meaningful picture of water quality conditions in light of on-going operations. This requires that the parameters chosen be indicative of the types of materials handled on the site and that their relative abundance be monitored both upgradient and downgradient not only from the various individual operations, but from the entire site. There are several reasons for locating sampling points in such a manner:

We know why. Who is the GW data?

a) They enable one to evaluate outside influences from those directly related to site activities;

b) They permit the determination of the "sphere of influence" of a particular operation;

c) They allow for the evaluation of both synergistic and antagonistic effects;

d) They provide additional information on which to judge the significance of parameter variance;

e) They permit the determination of the impact of each operation; and

f) Upgradient monitoring stations provide data as to background or baseline levels for parameters of interest and hence provide a basis for determining significant changes in the environment on site.

Finally, for a monitoring program to be meaningful, it must be conducted with some regularity. Such a continuous program provides several benefits:

a) It assures responsible regulatory agencies of compliance with environmental requirements;

b) A continuous log of parameter variation in water quality becomes discernible;

c) Any seasonal variation in water quality becomes discernible;

d) Data is generated that can be used for design and operations improvements; and

e) Information is available that can help to pinpoint problem areas before environmental damage is overt and irreversible.

In response to the aforementioned complaint, we are sumbitting the following program for a hydrogeologic investigation to be conducted at the Ponce Municipal Dump in order to establish the technical information base from which the above defined Monitoring Plan can be implemented. Upon receipt of approval from EPA for the Improvement Plan for the Ponce Municipal Dump, this Groundwater Monitoring Plan will be implemented within ninety (90) days of receipt of this approval.

We cannot approve Plan without GW data.

HYDROGEOLOGIC INVESTIGATION

PONCE, PUERTO RICO

Run on - Runoff Controls?
Geomorphology?

I. OBJECTIVES OF THE PROGRAM

The primary objective of the program is to prepare a detailed hydrogeologic investigation of the Ponce Site. The investigation will be geared to provide:

1) sufficient hydrogeologic information so that the Environmental Protection Agency (EPA) will be able to properly evaluate the site as a disposal point per the requirements of RCRA;

2) baseline water quality data on both ground water and surface waters as required by the EPA for solid waste management facilities;

3) an assessment of the site as related to leachate generation and impact on ground and surface waters.

To accomplish these objectives, the program is envisioned as consisting of the following tasks:

Task I Conduct a Hydrogeologic Investigation of the Site

Task II Assess the Impact of Previous Operations at the Site

Task III Prepare and Present a Final Report of the Study

Each of the Tasks identified above are outlined in detail in the following Scope of Work.

II. DETAILED SCOPE OF WORK

This is nice where is the information?

A. Hydrogeologic Investigation of the Site

1. Background Data Assessment

a.) Purpose: Minimize the amount of field work to be performed through utilization of existing data bases.

b.) Review historical geology of site.

Information to be developed would include:

(1) geological column/formations underlying site

(2) data on faulting if appropriate

(3) potential for subsidence

(4) potential for sink hole formation

(5) seismic activity potential

c.) Review existing soils data.

Information to be developed would include:

(1) nature and thickness of overburden

(2) characteristics of overburden/types of soils at site

(3) permeability data

(4) depth to groundwater aquifer(s)

(5) groundwater quality data

(6) location of groundwater drinking wells

(7) utilization of aquifer(s)

(8) regional groundwater flow direction

(9) local groundwater flow direction

2. Site Hydrogeologic Investigation

a.) Purpose: To characterize site specific hydrogeologic features.

b.) Methods:

(1) Split spoon sampling of the soil or its equivalent at max. 5 foot intervals and more frequently during zones of transition.

(2) Permeability tests on different soil types encountered at the site. The thin-walled tube sampling method (ASTM Method D1587-74) or equivalent may be used.

(3) Permeability tests on recompacted material that will be utilized in construction.

(4) In addition to borings, a number of test pits should be dug with a backhoe to provide further classification and verification of soils.

? What
o borings?
How deep

(5) Classification of split spoon soil samples from borings to provide a soil profile.

(6) The number and depth of borings are contingent upon conditions identified to be present at the site on the basis of the background data assessment.

(7) Grain-size analyses of representative soil samples (ASTM Test D1140).

(8) Liquid Limits (ASTM Test D423)

(9) Plasticity (ASTM Test D424)

(10) Moisture content of representative soil samples

(11) Cation Exchange capacity of representative soils - provides data on the attenuative properties of soils.

(12) Fence diagrams and cross sections showing soils underlying site.

3. Groundwater Description

a.) Purpose: To characterize groundwater conditions at the site.

b.) Methods:

(1) If possible, a minimum of 4 of the borings should be converted into monitoring wells. One of these wells should be upgradient of the site while the remainder should be downgradient. The location and number of monitoring wells will be site specific.

probably need 4 around Surface impoundment + at least 4 + probably more around LF

(2) The monitoring wells should be sampled to provide data on groundwater quality. Parameters to be analyzed should be as per the criteria stipulated by the USEPA in 40 CFR Part 265 Subpart F, Ground-water Protection.

(3) If the depth to groundwater is excessively deep, then the following may be pursued:

Not if wood buried added to.

(a) Installation of lysimeters beneath and around the facility in lieu of monitoring wells.

(b) Design modifications to permit EPA to waive groundwater monitoring requirements such as an under liner leachate detection system within a double-lined landfill (Part 264.302).

c.) Data generated will include:

(1) Direction of groundwater flow/groundwater contour

(2) Quality of groundwaters.

(3) Discharge point(s) for groundwater.

(4) Potential recharge zones.

(5) Temporal changes in groundwater quality will permit an assessment of facility impact.